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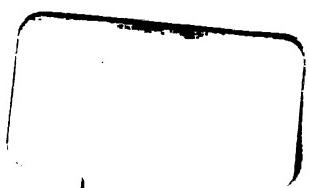
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GENERAL VIEW  
OF THE  
AGRICULTURE  
OF THE COUNTY OF  
**CARMARTHEN.**

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B.C. from Kyrie Fletcher

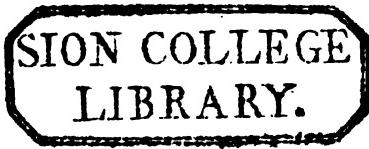
GENERAL VIEW  
OF THE  
AGRICULTURE  
OF THE COUNTY OF  
*CARMARTHEN,*  
WITH OBSERVATIONS ON THE MEANS OF ITS IMPROVEMENT.

BY  
CHARLES HASSALL.

DRAWN UP FOR THE CONSIDERATION OF THE BOARD OF AGRICULTURE AND  
INTERNAL IMPROVEMENT.

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## A D V E R T I S E M E N T.

THE following valuable communication, respecting the present state of husbandry in the county of Carmarthen, and the means of its improvement, drawn up for the consideration of the Board of Agriculture, is now printed, merely for the purpose of its being circulated there, in order that every person interested in the welfare of that county, may have it in his power to examine it fully before it is published. It is therefore requested, that any remark, or additional observation, which may occur to the reader, on the perusal of the following sheets, *may be written on the margin*, and transmitted to the Board of Agriculture, at its office in London, by whom the same shall be properly attended to; and when the returns are completed, an account will be drawn up of the state of agriculture in Carmarthenshire, from the information thus accumulated, which, it is believed, will be found greatly superior to any thing of the kind ever yet made public.

The board has adopted the same plan, in regard to all the other counties in the united kingdom; and, it is hardly necessary to add, will be happy to give every assistance in its power, to any person who may be desirous of improving his breed of cattle, sheep, &c. or of trying any useful experiment in husbandry.

## TO THE READER.

IT is requested, that this Paper, may be returned to the Board of Agriculture, before the first of March next.

It is hardly necessary to add, that the Board does not consider itself responsible, for any fact or observation contained in these Reports, which, at present, are printed and circulated, for the purpose merely of procuring additional information, and of enabling every one, to contribute his mite, to the improvement of the country.

## INTRODUCTORY ADDRESS.

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THE land owners and occupiers of the county of Carmarthen, are requested to peruse the following sheets with candour; and to recollect, that in a work of this sort, perfect accuracy is not to be expected.

Those gentlemen who discover any thing in this report, materially differing from their own ideas, will have the goodness to consider, that general and not local observation, has guided the execution of it.

The slow progress of agricultural improvement in this county, makes some gentlemen despair of its being carried to any considerable length during the present age. For their comfort let me remark, that the perfection to which farming and breeding is arrived in the midland counties of England, was established in the course of about twenty years in this present century, by the laudable exertions of a few intelligent individuals, without any extraordinary aid or patronage.

May not the county of Carmarthen, look forward with the fullest confidence of similar success, when it is considered that the great natural advantages it possesses, will be brought into action under the fostering care of the most liberal, respectable

spectable and public spirited institution, that ever was established in this or any other country, for promoting the prosperity, exciting the industry, and establishing the happiness of a nation.

That the land owners and occupiers of Carmarthenshire, may be among the foremost to feel the happy effects resulting from the vigorous exertions of the National Board of Agriculture, is the most earnest wish of their

devoted and obedient servant,

**CHARLES HASSALL.**

*Eastwood, near Narberth,*

*Dec. 30th, 1793.*

*SITUATION AND EXTENT.*

**CARMARTHENSHIRE** is bounded on the South by Carmarthen-Bay, West by Pembrokeshire, North by Cardiganshire, and East by Brecknock and Glamorganshires. It is reckoned 48 miles long and 25 broad, containing 512,000 acres.

**Ports.**—The principal ports are, Carmarthen, Laugharne, St. Clears, Kidwelly, Lanelly, and Llonghors Rivers, which is the Eastern part of the Carmarthenshire coast, next to Glamorganshire.

**Market-Towns.**—The Market-Towns are, Carmarthen, Kidwelly, Lanelly, Laugharne, Llandilo, Llandovery, and Newcastle-Emlyn.

**Surface of the County.**—The general surface of the County is hilly; and in the Northern and Eastern parts, the hills rise into mountains—the Vales are, for the most part, narrow, and the hills rise very abruptly from the skirts of small valleys, by which this district is almost every where intersected.

**Water.**—Great plenty of Water is found throughout the district, which issues from the mountains and from springs in the sides of the hills; and from these sources of supply, twenty-eight rivers and streams are formed, capable of turning mills, &c. The principal River is the Towy, upon which stands the sea port Town of Carmarthen, at the distance of twelve miles from its mouth. At Carmarthen the Vale of Towy commences, and extends about thirty miles up the country, carrying a breadth of about two miles upon an average.

**The Vale of Towy.**—The Vale of Towy contains several fine ranges of flat land on the banks of the River; and also a great deal of land rising into easy swells—a few hills raise

their heads to a considerable elevation, from whose summits the beauties of the Vale are viewed to great advantage; Grongar-Hill and the venerable ruins of Dynevor-Castle, are situations from which the eye is delighted by the richest prospects the imagination can form; the country hereabouts is better wooded and better cultivated than almost any other part of the county, owing to the number of gentlemen's seats with which this neighbourhood abounds.

*Soils.*—In describing the Soils of this District, I shall divide the Lands into three Classes; namely, Vale Lands, Uplands, and Moors.

*Vale Lands.*—The Vales in general, and the Vale of Towy in particular, consist of a rich loam—the sub-stratum is a dry gravel; sometimes a brick earth; and sometimes clay—the swells in the Vale of Towy consist partly of a good loamy soil upon a brick earth, a clay, or a strong sub-stratum.

In some of the smaller Vales are found Turbaries and wet rushy Lands.

*Upland.*—The Uplands include the great body of the cultivated farms in the district, and are almost universally employed in mixed husbandry—the soil a grey loam, of a lighter or heavier texture, according to the nature of the sub-stratum.

A light grey loam is almost every where found upon a slate, rabb \*, or rocky bottom. A stronger loam lies upon a brick earth, a clay, or a mixture of clay and gravel. A vein of reddish loam extends from about Kidwelly, across the county to the borders of Pembrokeshire. Its sub-stratum is a friable red rabb; and this soil is in an eminent degree favourable to the production of Corn and Grasses—

\* Rabb is a provincial term for a claty kind of rock, which lies under the surface of a large portion of this county.

Equally.

Equally grateful to the plowman or grasier, when treated with proper attention to its improvement.

*Climate.*—The Climate of Carmarthenshire differs materially in the Southern and Northern parts of the county. The Southern parts, lying exposed to the sea breezes, are temperate; the frost seldom continues long, and snow lies but a short time upon the earth, unless a severe north-east wind prolongs its stay; which very seldom happens for any length of time.

The Northern parts are subject to a severer atmosphere, owing to the extent of mountainous country lying thereabouts, on which the snows frequently lie for a considerable time, and chill the air around them to a certain distance. Even in the celebrated Vale of Towy the air is very cold, whilst the neighbouring mountains are capped with snow, although the influence of the noon-day suffers it not to remain long in the Vale.

*Rains.*—The air is extremely moist, and the Rains prevail to a very great degree.

*Proprietors.*—The Country is divided among a numerous body of Proprietors: Lord Dynevor; John Vaughan, of Golden Grove, Esq. and James Hamlyn, of Edwinsford, Esq. are reckoned the most considerable Land-Owners.

A numerous body of gentlemen of less fortune, and a respectable class of freeholders (who mostly occupy their own Lands) make up the remaining Proprietors of Carmarthenshire.

*Farms.*—In several parts of the district there are Farms of considerable extent to be met with; some of three, four, or five hundred acres; but the great mass of country inclosed and tenanted, consists of very small farms of from one hundred acres down to thirty; and perhaps fifty or sixty acres may be taken as the average of a very large majority of the Farms in the county of Carmarthen.

*Lands how employed.*—The Lands are generally employed in mixed husbandry; every Farmer having dairy-stock, breeding-stock of cattle and colts, and also a portion of their Farms in tillage.

Flocks of Sheep are kept by those whose Lands lie contiguous to, or near the hills; but not many breeding flocks of sheep are kept by the Vale or Upland Farmers, who live at a distance from uninclosed sheep walks.

*Grasses.*—Little attention is paid to the cultivation of Grasses. Clover and Rye-Grass are sown by many persons; but the Land is generally so exhausted by tillage, and a long train of Corn Crops before these Grasses are sown, that we seldom see a good crop of this mixture—the natural grass of the country, is chiefly white dwarf clover and bent on the Uplands; and Crested Dog's-Tail, Meadow Fox-Tail, and a few others of the Meadow Grasses in the Vales, particularly where the Lands have the advantage of being sometimes overflowed by the Rivers.

*Watered Meadows.*—Many occupiers of Lands, whose situation admits of making Watered Meadows, are become attentive to that valuable mode of improvement; and the increase of Watered Meadow Lands is conspicuous of late years throughout the district. Its advantages are generally known. However, there yet remains a great deal to be done in this branch of Husbandry, and many advantageous situations lie neglected, owing to the want of skill, industry, or ability of the tenants, to effect the necessary work for applying the advantages nature has given to their Lands.

*Ponds.*—Pond-making seems to be far behind-hand among them, without which much of the advantage of Watering is lost, as the muck and other manure washed down from the Roads and Hills in the Summer Season, cannot be detained for want of Ponds and Reservoirs.

*Grains.*

*Grains.*—The Grains sown in the district are, Wheat, Barley, Rye, Pease, and Oats.

*Wheat.*—The Climate is not found favourable to the growth of Wheat. Except in the Vales, the South part of the County, and in Laugharne Marsh, which is a strong loam. We seldom see a good sample of Wheat in the District; and the quantity grown is not sufficient for the consumption of the inhabitants, who import considerable supplies of Wheat from England \*.

*Barley.*—Barley succeeds better, and produces good Crops in bulk, but generally ill-coloured, and frequently thin-bodied, owing to bad harvests and damp seasons for opening and filling the Grain.

*Oats.*—Oats constitute the most profitable Crop upon the whole, in this District. Large quantities are exported annually to Bristol and other Markets. The quality but indifferent, as the Dealers make very little difference in price between a good or a bad sample; and very little attention seems to be paid by the generality of farmers, as to the Seed or Soil of this Grain.

*Crops.*—There does not exist in the general Husbandry of this County any regular rotation of Crops. The general practice of Farmers seems to be that of sowing such sorts of Grain, as they think the state of the soil will produce; and they seldom omit following the course of tillage until they find the Land will not produce anymore.

In some parts of the County Fallowing is practised, particularly the southern parts.

\* It is to be understood, that the moisture of the Climate is the objection to raising Wheat Crops, which do not succeed well in very wet Seasons; but I have noticed very excellent Crops of Wheat, in every part of the County, in Seasons favourable to its growth and harvesting.

Under Fallow Management the Course is :

Wheat

Barley

Pease or Barley—Of late years Pease are not much used, and instead of the second Barley Crop, they sow in some instances Oats.

Oats as long as the soil will bear any. It may be expected that some account should be given of the Land after this treatment : It is left to recover (as the people here term it) for ten, fifteen, or perhaps twenty years; during the first six or eight years of which, upon light Upland Soil, it produces nothing at all ; a few miserable bents and feeble weeds excepted. It is no uncommon thing to see more than half the surface of a good Carmarthenshire Farm in this deplorable state.

Some Farmers manure the Ley with Lime and Dung, give the Land one ploughing only, and sow Wheat on the Flag or Furrow, harrowing it well to cover the Seed, and pulverize the Soil.

At other times the Ley being manured in the Autumn, is ploughed and left in that state till the month of April following, when it is sown with Barley at two earths, and as many succeeding Crops as it will bear.

*Fallow*.—Although these absurd and injurious practices are pursued by the majority of Husbandmen in this District, there are some to be found in it, whose methods are less injurious ; contenting themselves with three successive Corn Crops at one course of tillage: and laying down the Land in such condition as sometimes produces tolerable Grass Crops afterwards. The course with Farmers of this description is :

Fallow for . . . . Wheat

Barley

Oats

Clovers and Rye-Grass.

*Laugharne*

*Laugharne Marsh.*—A considerable tract of Land, lying near Laugharne, is embanked from the sea, and is called Laugharne-Marsh; upon which a tolerable regular course of Husbandry has been long established—this Land is ridged up in ridges of about twenty-feet wide, and as high as the soil will bear; so as to let the water fall into the Reans, and thence to the adjacent Drains.

The usual course of Tillage is,  
Manure upon the Sward, plough and sow on the Flag.

Wheat,  
Horse-Beans,  
Barley—at three earths.

Sometimes a Crop of Oats succeeds the Barley; but this is not the general practice—the Land is commonly left to lie in Barley stubble, without any grass-seeds, and it soon recovers its Sward, and produces good Crops of Hay and Grass. It is a sandy loam, with a sub-stratum of rich clay, produced originally, as I imagine, by the over-flowings of the adjoining river Tawe, and the admixture of sea sand, carried over it by the influx of the tides.

The singular fertility of this Soil makes it an object of much concern to the Proprietors, that the Drains should be well attended to, by regular annual cleansing, which seems of late to have been rather neglected; the Water in the Drains stands at present higher than it ought to do from the nature and situation of the Lands; and will, if not timely attended to, prove materially injurious to the property, which belongs principally to George Penoyre Watkins, Esq. and Lord de Montalt.

*Green Crops.*—I observe an increase in the quantity of Green Crops in this District, among the Gentlemen; but, very few of the Husbandmen are got in the practice of cultivating Cabbage, Turnip, or any other green-winter Crop.

*Manure.*—The general manure is Lime, which is found in the Southern and South Eastern parts of the District, and

is carried to the remotest parts of it, Northward and Westward—indeed, part of the County towards Llanboidy and Llanvallteg, is supplied with Lime from Pembrokeshire. There seems to be very little skill in the general application of Lime as a manure, particularly in those parts of the county which lie the most remote from it—the Lime is frequently laid in small heaps upon ley ground, or in Land sown with Oats; where it lies several months before it is spread upon the surface and then it has more the appearance and texture of Old Mortar Rubbish, than of Lime. The country most remote from Lime, abounds with very excellent Marle in many situations.

Bog Soil and Fern, which are known to produce fermentation, when properly combined, are also in abundance in those parts of the County.—As there are many Gentlemen of enlightened minds resident in the parts alluded to, I hope to find, in the future publication of this Survey, some ingenious and satisfactory reasons, why none of these natural manures are not made use of, in preference to sending to a great distance, at an immense expence, for Lime.

The way of applying it is contrary to all principle; and unless some advantages are found by extensive practice to result from it, I humbly conceive Landlords would do well to endeavour, by all means in their power, to correct a practice which appears so very absurd. May not Lime be used to much greater advantage by mixing it hot with Bog-Stuff, Ditch-Earth, and Road-Shovellings?—I observe very little attention paid to the making of Dung-hills in any way; Farm-Yard management is a thing about which the Carmarthenshire husbandman seems not to have bestowed a thought.

*Plough.*—The Plough used in Laugharne-Martin is a most excellent one, called the Dutch Plough.

A broad wing or firm share, with a long taper point, circular traversing coulters, curved earth-board, single tail, and

and a sliding gauge to the beam, to regulate the depth of the furrow, with a swivel at the point of the beam, to regulate the width, is a construction of plough particularly well adapted to a sandy loam, rendered sufficiently adhesive by an admixture of river slime.

The Ploughmen do their work very neatly with this Plough, laying up their lands, and clearing their reans, with singular dexterity.

Several kinds of Ploughs have been introduced; but there does not seem as yet to be any one that has taken a decided preference in this district; perhaps no good one has found its way hither; the light Plough of Brecknockshire is used by some; and the Herefordshire, a heavier Plough upon the same plan, by others.

Probably the plough used on the Shropshire side of Montgomeryshire, and called there (to the best of my recollection) the Lomax plough, might answer better throughout this county than any others.

I have seen as neat work done with these ploughs as could be wished, on lands as nearly similar to the generality of Carmarthenshire, as can be imagined. Stones are found to obstruct the ploughs of all countries; therefore the objection made by people of this district to wing share ploughs, holds good every where. The fact is, very little pains are bestowed by the generality of farmers in clearing the stones from their arable lands; and we often see more expence incurred by the wear and tear of ploughs and harrows, owing to stones, than would clear the land completely from those incumbrances.

The Plough of this district is as awkward a thing as can be imagined—a share like a wedge—a straight stick instead of an earth board—and altogether ill-contrived, and unfit for the purposes of neat ploughing. I do not recollect to have seen any where such bad ploughing as is commonly observable in this and the neighbouring county of Pembroke.

*Harrows.*—The common Harrow of the district is not better than the plough.—It does not pulverize the soil without excessive labour, and going over the ground ten or twelve times in a place. I apprehend the Crabb Harrows of Suffolk would do the work better at three or four times going over than these do at ten or twelve; and the introduction of them may be a matter of much advantage to this district.

*Carts.*—The common Welch cart is a bad one, but of late years a very excellent sort of cart has been introduced among the farmers about Llandillo, and is getting into general use in that part of the county—the wheels are well set, so that the weight lies upon a perpendicular spoke—the body short and broad; and of a curved form, so as to give the load a tendency towards the axle-tree—the body answers the purposes of carrying manure, coals, &c. and with the addition of a chripple, it serves for carrying hay and corn. This well-contrived cart is, I understand, getting more and more into use; and as a better sort of carriage for farm purposes in this hilly country can hardly be contrived, it is hoped the intelligent farmers in every part of the district will adopt it.

These carts are drawn by three horses, one in the shaft, and two a-breast, which seems to be an advantageous method of using them.

Since the introduction of turnpike roads, the husbandmen of this county prefer using horses instead of oxen in their carts for going long distances, which they think answers better, and seems to be an improvement in the rural economy of this district; the old method of working two oxen and two horses in a team, still prevails in most parts of the district, more or less; and in all strong work upon a farm, or near home, the ox seems to be an useful draught beast.

The oxen work in a yoke in pairs, and the horses abreast before them. Some gentlemen work their oxen lengthways in harness, which is said to answer very well; but

the expence of equipping an ox team in this manner, seems to bar its being brought soon into general practice.

*Waggons.*—Waggons seem ill-calculated for the business of farming in most parts of the county; a few are kept by gentlemen of fortune, and the carriers upon the great roads use them.

*Hedging Tools.*—The hedging tools are convenient enough, and the labourers work up the sod facing of the hedges very neatly. The reaping-hook is not so expeditious, or so capable of making clean work as the sickle, but the former is still in common use here.

*Seed Time and Harvest.*—The usual times of sowing the different grains raised in this district are,

Wheat . . . . October, and early in November.

Beans . . . . February, early in the month.

Peas . . . . Ditto, but later in the month.

Oats . . . . March, and early in April.

Barley . . . . April, and early in May.

The corn harvest differs widely in the different parts of the county.

In the Vales, and all Southern aspects, the corn is ripe early in August, if the weather proves tolerably dry—and towards the middle of August, the harvest in these situations becomes general.

In the mountainous parts of the county, the corn harvest is commonly a fortnight or three weeks later.

The hay harvest is as various as that of corn.

In the Vales, they begin mowing the latter end of June—in the Upland farms about the middle of July—and among the mountains not till August.

*Inclosed Lands.*—In a country of so unequal and diversified a surface as Carmarthenshire, it is impossible to speak with tolerable precision of the proportions of inclosed and uninclosed lands. By the conversation I have had with gentlemen residing in all quarters of the county, together

with my own knowledge of it, the result seems to be as follows :

Taking into calculation the great extent of country, from Carmarthen westward to Midrym, Llanboidy, and Llanguydwm, and from thence by the borders of Pembrokeshire to the sea, along the coast to Loughors, up that river to Llanedy Forest, and back again to Carmarthen, includes a country almost wholly inclosed. Again, calculate the whole extent of the Vale of Towy, from Carmarthen to Kilycum beyond Llandovery, with all the lesser Vales branching out of it, and the inclosed lands stretching up the sides of hills from these Vales; a vast tract of inclosed country from the river Cych, in the North West, along the river Tiwy Eastward, by Newcastle Emlyn, to beyond Lampeter Ponstephen. Add to these extensive tracts the various inclosed districts of less note, in different parts of the Country, and it brings us to this conclusion, that about two thirds of the County is inclosed.

*Size of Inclosures.*—The inclosures of this district are small in proportion to the farms, and frequently ill-shaped. I do not recollect to have seen any county where the inclosures were so irregularly shaped as in this district. I apprehend this deformity arose from the slow progress of inclosing in former times.—When the major part of the farms were open, small portions of Land were occasionally fenced in for the purposes of tillage, and probably without much regard to the form of the plot: in process of time, these fences grew so thick, as to be found useful for sheltering the live stock, and on that account were preserved—the inclosures of more modern date are regular, and better adapted to the size of the farms; and I apprehend much benefit would result from a more regular arrangement of the old inclosures, by pulling many of them down, and erecting others, so as to divide the land into better proportions. It is no uncommon thing to see fifteen or twenty little

little crooked awkward fields upon a farm of fifty or sixty acres.

*Common Field.*—I do not know of any considerable extent of open common field land in the county.

*Advantage of inclosing.*—No difference of opinion arises as to the utility of inclosing in general throughout this district; and it is generally believed that population is considerably increased thereby.

The value of the land increases by being inclosed, in proportion to the subsequent treatment it receives; but, upon an average it is thought to be more than double its original value.

*Wastes.*—Upon the calculation already made of the inclosed lands in the district, it remains for observation, that one-third of it is uninclosed and waste. Many of these extensive Wastes are not common; they are appurtenant to the adjacent estates, but for want of dividing them among the tenantry, no inclosure takes place.—Of 170,666 acres of Waste Lands, about one-half may be deemed capable of cultivation at a reasonable expence, viz. 85,333 acres, and the other half not capable of such cultivation, by reason of its elevation or other difficulties.

*Wastes how depastured.*—These Wastes are now depastured by the occupiers at large, within the several manors to which they belong, without stint; and are thereby rendered of little value to the community; at least they are not so productive as if some rule was established for regulating the depasturing of them.

Stocks of small sheep are kept upon most of the hills, and a few inferior cattle and horses upon some; but the highest hills do not, as I am informed, keep any stock during the rigorous seasons of winter.

*Wastes how improvable.*—I presume the best methods by which the Wastes could be improved, may be to divide and inclose them, allotting to lords of manors, and persons having

having common rights, according to their respective interests; and making compensation to the tenantry, in proportion to the loss they may be found to sustain by being deprived of the pasturage of the commons.

The turf upon many of these wastes is a kind of public stock, for which the inhabitants of other lordships pay the lord of the manor an acknowledgment for the privilege of digging, and thereby supply themselves with fuel at an easy expence; it may therefore be proper to let all such turf bogs remain uninclosed, and subject to such regulations as may be devised for their future management.

After being inclosed, these wastes may be let to the occupiers of adjacent farms, in proportion to their extent, and the powers of the tenants. Those who have no adjoining lands, will probably find their account in erecting suitable buildings, and letting their allotments in separate holdings, taking care to bind the tenants to improve, by proper manuring and a judicious succession of crops, previous to sowing grass seeds.

Planting Forest Trees in many parts of the wastes, may be practiced with good effect. In situations sheltered from the west winds, and where loose rocks and large stones render the land unfit for cultivation, oak, ash, beech, sycamore, and all the fir tribe, grow very well. In some of these situations the land is moist, and particularly adapted to the growth of elm, alder, asp, and willow.

The opinions of proprietors of estates in this county seem to be unanimous, that nothing acts so strongly in preventing the improvement of waste lands, as the great expence which generally attends the present mode of obtaining authority to divide and inclose them, by applying for an act of parliament upon every occasion of that sort. People of small fortune dread the expence of these applications so much, that they will rather permit their interests in waste lands to lie dormant, than subject themselves to the greater incon-

inconvenience of an expence they are not always able to bear.

To remove this difficulty would perhaps be one of the most popular and beneficial undertakings, in which the Honourable Board of Agriculture could engage. Some of the most intelligent persons I have talked with on this subject are of opinion, that an act should be passed to empower the Custos of each county, with the magistrates assembled at the Michaelmas Quarter Sessions, to appoint commissioners to divide and inclose any waste, upon the application of the majority of proprietors in value, under their hands and seals. Such commissioners to be persons no wise interested in the Waste proposed to be inclosed; and having been previously chosen by a majority of votes, at a public meeting of the proprietors held within the manor or parish in which the waste lies, by notice given on the church door of such parish, for three successive sundays, (during divine service) next previous to the day of meeting,

Such powers as may be found necessary to invest commissioners with; and proper instructions and regulations, as to the making the allotments and paying the expences, may be enacted, so as to answer (it is presumed) all the purposes at present to be obtained by separate acts. It is generally believed in this country, that such an act of parliament would be the means of inclosing every acre of waste land in South Wales (capable of cultivation) in a very few years.

The commissioners may also be empowered to make such regulations for depasturing so much of the waste lands as may be deemed unfit for cultivation, as they think needful; and likewise to direct the manner of protecting plantations of forest trees, and the cutting of peat for fuel. The greatest proprietor of waste lands in the county, is Mr. Vaughan, of Golden Grove; whose lordships are of extraordinary extent, and many of them exercise regal rights at this day; being part of the ancient Duchy of Lancaster.

I regret

I regret not being enabled to give a more particular description of these lordships.

*Bishops and Clerical Bodies.*—If the act went to empower bishops and clerical bodies, to exchange and inclose their land lying in open common fields, or otherwise intermixed with other properties, the church revenues would be increased in numberless instances, and the property preserved from many encroachments and curtailments to which it is now frequently liable.

*Price of Labour.*—Labourers are paid ten-pence a day, furnishing their own diet, in summer, and eight-pence in the winter months; throughout the Vale of Towy and the Southern parts of the county.

Towards the Northern and Western parts, and among the mountains, the price is two-pence a day less. Some people diet their labourers, and others keep a cow for them, or a few sheep, and then the wages are in proportion to these advantages.

In mowing and harvest time, the men are allowed diet and beer in some places, and beer only in others; and the mowing is frequently done by the acre, from a shilling to eighteen pence, with beer.

Women do a good deal of harvest work, and are paid in general about two-pence a day less than the men.

*Hours of Labour.*—The hours of labour are generally from six to six, with half an hour at breakfast and an hour at dinner.

In harvest time, they work from six in the morning till sun-set; or so as to reach the house and eat their suppers before it grows quite dark.

In winter the labourers come to their work at sun-rising, and continue as long as they can see, having eaten their breakfast before they come to work; and taking a reasonable time to dinner.

*Wages.*—The wages of hired servants are various; in the Vales.

Vates and Southern parts the following may be taken as the general rate of wages by the year:

First Ploughman . . . . .	5l.	10s.	to	6l.	6s.
Second Ditto . . . . .	4l.	os.	to	4l.	10s.
Boy . . . . .	1l.	10s.	to	2l.	os.
Dairy-Maid . . . . .	4l.	4s.	to	5l.	5s.
Under Maid . . . . .	2l.	os.	to	2l.	5s.

## The northern and western parts,

First Ploughman . . . . .	5l.	os.	to	5l.	10s.
Second Ditto . . . . .	3l.	os.	to	4l.	os.
Boy . . . . .	1l.	os.	to	1l.	10s.
Dairy-Maid . . . . .	3l.	os.	to	4l.	4s.
Under Maid . . . . .	2l.	os.	to	2l.	5s.

**Drains.**—The gentlemen, and those among the farmers who are in good circumstances, begin to be attentive to the art of draining; for the practice of which this county affords an ample field. It is observable, however, that this useful branch of agricultural improvement, is but indifferently understood in the district.

It frequently occurs to one's observation, that much unnecessary expence is occasioned by a superabundance of drains. Nothing is more common than to see drains cut in all directions through a Bog; and it is matter of surprize, that the inefficiency and absurdity of such a practice, should escape the notice of any one, who professes to consider the causes of these ordinary operations of nature.

The first thing to be observed in laying out a piece of land for draining is, the cause of its being wet, whether it is owing to springs issuing from the higher ground, or to a general moist and oozy bottom; the attentive observation of an experienced drainer will decide this important point with great accuracy.

If springs occasion the land to be boggy, the drain should be cut through the eye of each spring, or rather on the higher side of that part of the land, where

the effect of the water is visible; the depth of this drain must depend, upon the depth at which the spring or pipe of water lies in the earth; in general about three feet or three and a half will reach it; and your drain may be sunk about four or six inches below the the pipe, in order to get the complete command of the water, and prevent its communication with the lower lands—the width of the drain may be proportioned to the flow of water—about two feet wide at the top. and nine inches in the bottom, is commonly found equal to the purpose of draining a spring bog of several acres.

*Stone Drains.*—The best material for filling this drain is field stones, which should be laid in the bottom, by hand, so as to form an open sough, or gutter, to convey the water off; throwing the stones in promiscuously, seems a bad method, as it will often happen, that a stone or two may fall into the bottom of the drain in such a position, as to stop the progress of the water, and then your drain becomes full, and the bog continues as if nothing had been done to reclaim it. After forming a sough, by laying small stones at the sides, and large ones over them, the drain should be filled promiscuously to the lower edge of the surface soil, either with stones, furze, or aquatic brushwood—then a covering of straw or rushes will be necessary to prevent the soil from falling among the stones, which would be very apt to choak the drain, and after that the soil may be thrown in: care must be taken in laying this drain, so that it may not have too much or too little fall; an easy current is the safest, because a rapid stream is apt to break up the bottom of the drain, and the gravel being carried along with the water, may form a lodgement in some part of the sough, and choak it; on the other hand, too sluggish a current admits of the growth of a green slime in the sough, which is often injurious.

*Brush-Wood Drains.*—Land once drained in this manner is drained for ever; but where stones cannot be got, the

drain may be filled with willow, alder, asp, or beech boughs, which are exceedingly durable if put into the drain green, or before the sap is dried; but if they are suffered to become dry, and then laid under ground, a rapid decay is the consequence:

I have seen willow taken out of a bog after lying there thirty years, and its bark was as fresh and sappy as if it had been recently cut from the hedge; and it is well known, that beech laid green in the water, will continue sound for for any length of time.

There is more art required in working a woodough, than most people are aware of. Laying the wood along the drain, is not the thing, even if it be made into faggots so as to lye at some distance from the bottom of the drain, it is not to be depended upon; for if any part of the side of the drain slips, the faggot, losing its support, sinks to the bottom; and the drain shortly becomes useless.

The completest method I have yet known, is to cut the strongest willows, or other aquatic brushwood, into lengths of about twenty inches, and place them alternately in the drain, with one end against one side of the bottom, and the other leaning against the opposite side.

By clasping your hands together, and extending the fingers between each other, my meaning will, perhaps, be clearly understood.

Having placed the strong wood in this manner, I fill the space left between them on the upper side (as between the palms of the hands when clasped) with the small brushwood; upon which a few rushes or straw being laid, as before mentioned the work is done.

Lands rendered boggy by a general moisture in the under stratum, may be treated in a different manner.

*Fence Draining.*—Where inclosing as well as draining is required, drains made with an easy fall across the land, and the outcast thrown on the lower side, and faced next the drain with two or three courses of sod, make a neat and effectual fence.

These drains should always be cut so deep as to reach the water stratum, which is a gravelly substance generally found under the clay. About four feet wide at top, three feet deep, and nine inches wide at the bottom, makes a good drain fence. The top of the fence may be planted with quick, or sown with furze, which if kept down by cutting it every two or three years, makes an excellent fence.

In lands of this sort, where fencing is not required, the drains may be made and filled in the same manner as that recommended for draining springs: but care should be taken in either case, to sink down to the water stratum \*.

I have observed upon several gentlemens demesnes in this county, that the benefits of draining have been lost, for want of attending to the water stratum; without which the money spent in labour, might as well have remained in the owner's pocket; getting through the soil into the clay, and drawing off a little surface water, is but a feeble effort at draining; and yet this has been done by some, who give themselves credit for wonderful sagacity in this branch of rural œconomy.

*Embankments.*—The fens of this district lye near the coast about Kidwelly and Llangennech, and are of considerable extent; they are, for the most part, overflowed by spring tides; and on that account called salt marshes. Laugharne marsh, lying on the west side of Tave river, has already been mentioned, as a valuable tract of excellent land. Why no attempt has been made to embank and drain the other marshes; which consist of a soil equally valuable, is matter of much surprize; especially as most of those marshes may be embanked at a very moderate expence, since the tide does not rise to any considerable height over them.

\* If lands of this sort lie very flat; it is better to make open drains, sloped to the width of six or eight feet on each side, to prevent their falling together; and also to admit the passage of Beasts, &c.

I was informed, by an intelligent person who lives in that part of the country, that a bank six feet high, would be fully adequate, to resist any tides, by which those marshes are overflowed; upon this statement, I have calculated the expence of embanking the Carmarthenshire marshes, at about two shillings and eight pence per yard long; from which any proprietor may easily calculate the expence of an embankment; adding about twenty per cent. for skillful assistance in setting out and superintending the work.

Should any embankments take place, I beg leave to recommend one essential thing in the construction of them; that is, to make the sod facing on each slope of the bank, at a pitch of forty-five degrees.

Many embankments have been made more steep, but they are liable to be broken down by the action of the water against them. An embankment made upon the principle here recommended, will best resist the water; which in that case, acts with equal pressure horizontally and perpendicularly; and in stormy weather, upon high tides, the waves will not have so much power upon a slope of this sort, as against a bank of nearly an erect side.

*Sluices.*—In making the sluices, care should be taken to set the sills so low, as to give a quick outfall from the main gout or drain, through the sluice gate; in order that no weeds nor obstructions may lodge between the gate and the sill, and thereby admit so much water as to become dangerous to the lands within—the drains should be of such a depth, as that the water may always lie two, and a half or three feet below the surface of the land; otherwise it will be liable to produce rushes and sedges.

*Fenns.*—In a country where labour is cheap, it is much to be lamented that such valuable tracts of land as these marshes may be made, should be left in so unproductive a state as they now are.

There is a considerable tract of fenn land between Carmarthen and St. Clears, capable of being drained at a reasonable

sonable expence; and smaller tracts of similar land are to be met with in various parts of the county.

*Woods.*—The prodigious havock that has been made of late years among the woods of Carmarthenshire is truly alarming.

From being a well wooded country, it is now become the reverse; and the stock of timber is diminishing so rapidly, that a very few years will probably reduce the inhabitants to great straits for a supply of this necessary article.

The vast quantities of timber, which every part of the county produced till of late years, seems to have begot in the proprietors an indifference as to the protection of their woods, from which too many of them have not yet recovered.

But surely the approaching scarcity is a circumstance sufficiently important to awaken the most torpid to a proper sense of their future interests; and it is most sincerely to be wished, that every proprietor of woodlands in this county, would follow the few examples to be met with at present, of fencing their coppices, and promoting their future growth by every possible means.

The inequalities of the surface of this district, render it in a peculiar manner adapted to the growth of timber.

Forest trees of all sorts thrive well here, particularly on the slopes of hills sheltered from the south west wind, and in the vales; of which the extensive and valuable woods about the seats of Lord Dynevor, Mr. Vaughan, of Golden Grove, and several other gentlemen, afford undeniable proof.

In a country thus favorable to the growth of so ornamental, so useful, and so necessary an article, is it not to be regretted that its cultivation should be neglected? and every one interested in the future prosperity of this valuable county, must perceive the advantages of using all possible endeavours to keep up the stock of timber.

I do not find that there are any nurseries for raising forest trees for sale, in sufficient quantities to supply a great

great demand ; perhaps an undertaking of this sort, under the encouragement of the gentlemen of the country, might be productive of the happiest effects, by giving opportunities to proprietors, who wish to improve their estates by planting, to supply themselves with forest plants at an easy expence.

Some seedlings are purchased in boxes from the London and other nurseries ; but the high price of the land and labour in those parts, occasions the plants to be so crowded in the nurseries, that when they come to be set out in more exposed situations, they do not often thrive to the satisfaction of the planter.

*Peoples Turn for Improvement.*—The people of this country in general, for there are many exceptions, are not forward in receiving improvements in agriculture. They all acknowledge the advantage of improving the soil, and yet very few practise it. When you come to examine their motives for a conduct so opposite to prudence, they tell you, they are afraid to let the land go out of tillage in good heart, lest their landlord should raise their rent at the expiration of the lease; and they are afraid of adopting English fashions into their mode of farming, lest their neighbours should laugh at them.

Such are the apologies commonly made by these people for the worst sort of rural management that can be conceived ; and how to excite a spirit of improvement in the class of people here alluded to, seems very difficult.

Certainly, a work so desirable, can only be accomplished by the attention and good conduct of the landlord towards the tenant in the first place ; and by a proper regard to his engagements, on the tenants part, in the next.

In hopes some abler hand will point out better methods for promoting the general improvement of the soil of this district, I shall now venture, though with much diffidence, to recommend what strikes me as most likely to introduce amendment.

Supposing a gentleman possessing an extensive property, occupied by a numerous tenantry, was to select one or two  
of

of the most tractable, honest and industrious farmers upon any connected tract of the estate. Suppose upon a farm of a hundred and fifty acres.

The farm being set up with a proper farm yard, a moderate sized barn, a stable, with a granary over it; ox-house, cow-house, wain-house, calves-cott, and piggery; with a shed on the west side to shelter the yard, and for the outlying cattle to run under in severe weather. Hedges, gates and ways of communication in good trim, the farmer begins his operations, and raises the first year, ten acres of turnips; also such corn crops as he finds the farm in plight to receive.

By a proper consumption of his turnip crop and strict attention to the collecting of manure, he will get together a good body of dung and compost for the ensuing year; and may then increase his green crops, so as to establish a regular course of tillage husbandry.

The proprietor of this farm, or his agent, is supposed to be well skilled in the management of green crops, and the successive growth of corn crops; to be active and diligent in instructing this farmer through the whole management of his farm; to see from time to time, that he keeps a regular and just account of his expences and receipts; and that every thing is conducted upon frugal principles. Without this attention, no good can be expected to result from the trial. At the end of a few years, it will appear whether the farmer has benefitted or lost by this mode of culture; and his neighbours will have had a fair opportunity of seeing the whole business carried on by a man of their own rank, whose reports they may receive with confidence. If they find the new method has turned out more profitable than their own, taking into consideration, the improved state of the soil, there may be good hopes the system will be adopted by all of them. The tillage course established upon this farm is intended as a preparation for laying down the major part of the lands in pastures, as fast as they become fit for that purpose.

Something

Something like this, would convince people of the utility or loss of the green crop system; and the farmers would be satisfied with the report their neighbour gave of the result of his trial. Gentlemen of fortune, trying experiments upon their own demesnes, do not afford that satisfactory kind of example to a neighbourhood in general, which is necessary to instruct their tenants. Remarks are always made with reference to the landlords powers. A neighbouring farmer says "I could farm like my landlord, if I had his purse."

In constructing farm buildings, the strictest regard should be paid to œconomy; the buildings should be just large enough to answer the purpose and no more—erected upon the cheapest plan possible:—built firmly, and well secured against the effects of storms; so as to prevent, as much as may be, the expence of future repairs. An ostentatious display of buildings, disheartens a farmer who is to engage in a considerable share of the future expence of keeping them up; and such ought never to be built upon farms intended to be let.

*Situation of Farm Houses.*—The situation of farm houses in this district is frequently very bad. They are, in many instances, built in low bottoms; and in others, at the extremity of the land. Each of these inconveniences should be studiously avoided in all future erections of this sort; and also another inconvenience, which has of late years crept into this country; namely, that of erecting farm houses upon situations too elevated and exposed.

Three things should direct the choice of a situation for a farm yard; water, shelter and centricity. Wherever this combination of conveniences can be found, is the proper situation to build upon—avoid, if possible, a western exposure; which in this district is the most distressing wind we have to guard against. In a farm yard lying to the south east; and sheltered by the buildings from the west and north, the cattle always thrive best. It generally happens, that a stream of

water may be brought to the situation on which you wish to erect your farm yard ; a good pond should always be made at the lower side of the yard, to reserve a stock of water for watering the meadows below ; the profits, resulting from such a conveniency, are too obvious to need further remarks.

It is observable in this country, that breeding cattle and dairying, are the best adapted to the nature of the soil and climate. The soil is naturally disposed to produce grass ; and the dampness of the air, is peculiarly favourable to vegetation ; a combination of advantages in grazing, which points out this county as highly favourable to the production of stock and the fruits of the pail. Corn is not a certain produce here, nor are there at all times sufficient demands for it in such quantities, as to induce husbandmen to make it their principal object.

A judicious mixture of dairy, breeding and tillage, seems well adapted to the climate, the soil and the temper of the inhabitants.

Having already remarked, that the agricultural practice of gentlemen of fortune, does not appear to have any considerable influence upon their inferior neighbours, I might mention many instances of very excellent farm management, among the gentlemen of different parts of the county, in support of this opinion.

Among the best examples of a regular system of husbandry, established upon an extensive scale, is that of Talliaris Demesne, which is now in a progressive state of improvement, under the personal direction of the proprietor ; whose knowledge of, and attention to, the various branches of the farm, are producing the most desirable effects ; in bringing a soil, to which nature has not been very bountiful, and art still less so, to a very high degree of cultivation, under as judicious and well conducted a course of modern agriculture, as has at any time fallen within my observation.

Lands, which heretofore were of very inferior quality, but now producing the finest crops of cabbage and turnip, with successions

successions of corn and grasses, by means of methods which every farmer may adopt if he will; hold out sufficient examples for the imitation of a country; but so it is, that in this, as well as some other counties of Wales, no example, however feasible and obvious, is found to excite a spirit of imitation among the peasantry; otherwise, the specimen just mentioned would ere now have produced the happiest effects, in the neighbourhood of Lord Robert Seymour Conway.

*Stock.*—The horned cattle claim the first consideration in this district, as they are the most important to the farmer.

*Horned Cattle.*—The original black breed of the country, is the most prevalent; and is a short bodied coarse kind of beast; on the mountains, these cattle are very small; and in the vales and better lands, they get up to larger sizes; but are almost every where ill shaped, and unprofitable to the pail. Many are the kinds of horned cattle, which the gentlemen of this county, (with a very laudable zeal) have introduced in order to amend the breed; and yet it does not appear, that any kind has taken the lead in a decided degree. The long horned Leicestershire, the Herefordshire, Shropshire, Glamorganshire, and Pembrokeshire, have all had their day with particular gentlemen; and each kind seems to have been the favourite at different periods. The best opinions on the subject, seem to concur in declaring, that no good cross has yet taken place in the county to any considerable extent, and that all the original breeds hitherto introduced, are improper to stock the district.

Further trials may probably fix this matter upon a proper basis; and whether the cross between the Pembrokeshire heifer and Herefordshire bull will prevail or not, must be left to future experience \*.

\* An intelligent gentleman of Carmarthenshire, lately told me this cross is the favorite in Herefordshire at this time; and is called (in the modern phrase of breeders) the crack breed of that country.

It is a very general opinion in Carmarthenshire, that something ought to be done towards improving their cattle in shape, size, and milk.

*Sheep.*—The sheep upon the mountains of this district, are the native stock of the country; and weigh from nine to eleven pounds a quarter when fat. The wool from a pound and a half to two pounds per sheep.

It is apprehended no cross could be introduced, for increasing the size or wool of these sheep, as the lands on which they live would not support a larger breed.

In the vales and upon inclosed upland farms, crosses from larger breeds are introduced and succeed very well. The Ryeland Herefordshire breed, the Dorset, and the Gloucestershire Wold kinds, are found to answer. Upon the whole, I conceive the latter kind are best adapted to the generality of farms in this county.

A wether of about sixteen pounds a quarter, that will cut four pounds of wool, is best calculated for these markets; and is perhaps, the most profitable sized sheep that can be propagated here.

*Rot in Sheep.*—The rot in sheep is not common in this district. The farmers bordering upon the marshes about Kidwelly and other parts, are cautious to keep their sheep from the marshes in dewy mornings; at which times, they say, the sheep are apt to get the rot more than in dry weather. I have not been able to procure any information, as to the species of grasses these Lands produce; and it may be well worth the attention of the neighbouring land owners, to cut some sods from the marshes, and remove them to some moist situation to produce their seed stems, by which the kinds may be accurately ascertained. Probably the morning exhalations of the marshes may be more injurious, than the grasses they produce.

*Horses.*—The breed of horses is not much attended to by farmers; the general smallness of the farms, seems to operate against

against rearing colts, by confining the farmer to such narrow limits, that he has no run for idle stock ; his cows and working oxen occupy all the land he can spare to lye under grass ; and whilst the present destructive method prevails, of exhausting the soil, and letting it remain a series of years to recover, we may not hope to see any considerable improvements made in the breed of horses. In general, the few colts reared in this district, are starved and checked in their growth, for want of proper keep. Many gentlemen and a few farmers, are getting into better breeds of horses, both for the saddle and draught. Particularly in the vale of Towy, where you see good teams upon many farms, and a better kind of saddle horse than were observable some years past. Blood stallions are brought every season from the English counties ; and draught stallions from Herefordshire and other countries ; but breeding from good horses, is not yet become general.

*Swine.*—The farmers appear not sufficiently attentive to the breed of swine—a narrow, short, prick-eared kind, is observable in most parts of the county. Several gentlemen have better sorts ; and a cross of the Berkshire breed may be seen in some places.

A few pigs are always profitable upon a farm ; and those sorts that will thrive most in a given time, are clearly the best ; it therefore behoves every one concerned in this species of stock, to attend to the improvement of the breed.

*Butter.*—Salt butter may be mentioned, as an article of great importance to this district ; there seems to be some regulations necessary to check the fraudulent practices that have prevailed in the package of salt butter, in this as well as other counties of South Wales ; by which its character is much impaired at the principal ports of the kingdom to which it is sent.

I presume, if inspectors were appointed at every sea port where butter is shipped, to examine its quality, and mark each firkin according to the class to which it belonged. viz. First, second,

second, and third; a spirit of emulation would arise among the dairy women; and every one would strive to produce butter of the best quality. The worst sort may be marked as grease and put at a price accordingly; by which means the dirty slut, who packs bad and rancid butter, would find her tricks frustrated; and the honest, cleanly dairy woman would be rewarded for her care and neatness.

The farmers name and place of abode may be marked upon each firkin. The inspector to be paid a reasonable sum per firkin, for his trouble of boring, examining and marking the quality of the butter; and a penalty inflicted upon him for neglect or fraud, in the discharge of his duty.

Such other matters as might be thought necessary, would occur in the course of framing an Act of Parliament, for this salutary and necessary purpose; in which, great helps may be drawn from a perusal of the laws now in force, for regulating the package of salt butter in Ireland.

*Corn by Weight.*—The indiscriminate manner in which our corn dealers buy oats and other corn for exportation, is an obstacle to the growth of good grain; it is a common practice with many of them, to give one general price for the respective grains, without proper regard to the quality. If grain was sold by weight, instead of by measure, the improving farmer, who takes care to sow good seed in well prepared soil, would receive a just compensation for his pains, and the bad one, who attends to neither of those important points, may be stimulated to amend his practice.

The great variety of soils in Carmarthenshire, and the manner in which they are interspersed, renders it a difficult task to point out the particular sort of improvement, to which each is adapted. The only extensive tract of regular soil, is in the celebrated Vale of Towy; and even there, the quality varies considerably.

Every occupier before he begins to improve a piece of land, will consider the quality of its soil, and for what purpose it:

it seems fittest. There is one line of conduct, which seems so decidedly applicable to the Vale lands, that I presume no difference of opinion can exist upon so obvious a matter; namely, that of laying down the lands for grass, and occupying the whole in dairy and breeding.

*Vale of Towy.*—It is mortifying to see the fine lands of the Vale of Towy and other fertile tracts of this district, driven by the plough to the most deplorable state of sterility; more than half the Vale seems reduced to this condition; and much of its surface may be seen in the extreme of poverty, whilst adjoining lands of precisely the same quality, are cloathed with a pleasing and profitable verdure.

Instances of better management may be seen among the gentlemen—the fine pastures and meadows about Lord Dynevor's residence at Dynevor Castle; and the extensive tracts of rich land belonging to the demesne of Mr. Vaughan, of Golden Grove; with those of many other gentlemen of the Vale of Towy and other parts of the district, are sufficient proofs of the capability of improvement this county possesses.

*Dairy.*—Partial improvements are to be seen in most quarters of the county, among people who have the good sense to know the advantages of keeping their lands in good heart. Of dairy farmers, there are but few who confine themselves to that profitable branch of rural management; as one instance of the establishment of a dairy farm, properly so called, I can venture from my own observation, to point out, as highly worthy of imitation, the practice of Mr. Philipps, of Court Henry; this gentleman's attentive and skilful management has, in the course of a few years, brought his lands and stock to a degree of improvement fast approaching to perfection; and as a proof that the prejudices of the ordinary farmers in the Vale, are gradually giving way to the conviction of reason, several of them (with a degree of candour, I could hardly have expected) readily acknowledge Mr. Philipps's management is better than theirs.

I have

I have conversed with many of these people at different times, and asked them why they do not pursue a mode of farming so obviously advantageous and applicable to their soil. The expence and risk of a corn crop, where such quantities of rain prevail, and where much of the land is liable to floods; are obstacles to tillage husbandry, which they all admit; but the evil they complain of, is want of capital to pay their rents, during the first two or three years after laying down their lands in grass, and until it recovers its sward and becomes productive. The fact is, the people have impoverished the soil, and the soil in its turn has impoverished them, and amply revenged the wrongs it suffered by the farmers; put a sloven upon ever so rich a soil, in ever so good condition; let him impoverish his farm, and I'll answer for it, the farm will pay him back in his own coin, and impoverish him, unless he runs away from it.

*Vale Lands.*—Since the ready penny appears to be the principal motive with the generality of Vale-farmers, for continuing a practice they know to be wrong; may it not be well worth the consideration of proprietors of such lands, to adopt some plan for obviating the difficulty. Suppose a gentleman of extensive landed property, was to let a farm upon a new lease, and remit for the first three years, the rent of so much of the land as appears to have been driven by the plough, and consequently not in a state to become immediately profitable under grass; at the end of that period, an increase of rent might commence, rising yearly in due proportions, until the whole farm becomes fully improved; and then to continue at the rent agreed upon, for the remainder of the term. By something of this sort, the difficulty of procuring a ready penny to answer the landlords demands would be done away; and the farmer would feel himself gradually rising into wealth and comfort.

I have thus dwelt upon the subject of the Vale lands, because I think them of infinite consequence to the agriculture

ture of the county at large. Difficulties may be seen and objections started; but I humbly presume, steady perseverance may remove them all—the landlord would be sure to receive in the end, what he sacrificed at the commencement of a lease; and the tenant would no longer be struggling with difficulties, which by the present impoverishing practice, are daily accumulating upon him.

All the strong loams of this county produce good grass, when laid down in proper condition. The method of doing this is too obvious to require any particular detail; every Carmarthenshire farmer knows, that if he manures and ploughs his land well, and afterwards forbears to run it out of condition by too many corn crops, it will become good grass land.

In dry loamy soils, artificial grasses may be sown with success on lands intended to be laid down for pasture or meadow; but I doubt whether the natural grasses of the Vales may not be preferable to any other sorts. Cow grass, Dutch clover, and the fine rye grass or darnel, seem to be a desirable mixture for producing an early sward.

Where this soil is found to be shallow, it produces excellent crops of barley and oats, with profitable returns of artificial grasses; and by keeping it in a proper course of tillage, with intervening green crops, it answers very well; whilst the other parts of the farm are kept in grass for the dairy and rearing business\*.

In many parts of the county, a strong loam is found upon a clay moist bottom; most of these lands have an easy slope,

\* The culture of rape for spring fodder, is perhaps the best sort of green crop for the generality of farms in this county; and I have great confidence, that if it was once introduced and its benefits known, the practice would become general. Rape may be managed to great advantage with very little expence, and it thrives vastly well in this moist climate without much care or labour. A piece of rough land pared and burnt, manured with a moderate quantity of lime, and sown with rape, affords an excellent crop. Barley succeeds well after it—then clover—then oats; or with a slight dressing of muck, or compost of lime and bog earth, barley may be sown without a doubt of success.

so as to render the draining of them cheap and profitable. An useful kind of fence drain may be made upon such lands, at a small expence. Let a morassy piece of ground, lying with an easy or quick descent, be inclosed by making an open trench at the upper side, between the wet and the dry land. Let this be six feet wide at the top, three feet or three and a half deep, and eighteen inches wide at bottom, neatly sloped at the sides; a sod facing on the lower side of the trench, three feet high, and all the outcast of the drain thrown behind the sods; this gives a complete fence, which may be planted with willow or alder, or sown on the top with furze, according to the situation and the will of the owner; care must be taken, so to conduct the fence drain, as to give it a fall to each or one side of the inclosure. The side fences will also be made in the same manner, and one or two cross drains of the same sort, may be made to divide the field (if necessary) into smaller classes.

Lands thus drained, generally require paring and burning the first year; in order to destroy the coarse surface, which is exceedingly laborious to pulverize by the plough and harrow.

The labour after paring and burning is easy; and the ashes produced thereby, with about six common cart loads of lime to each acre, make an excellent preparation for a crop of wheat, cole seed or turnips; after which the only error to be avoided, is that of taking too many successive corn crops, before the land is laid down in grass.

The peaty soils upon moist bottoms may be treated in the same manner; and in general, it will be found advantageous to ridge the land up in ridges of twenty or twenty-four feet wide; always ploughing to the back of the ridge, by which means the rean becomes a drain to each ridge; but this must not be done with the first crop, if you sow wheat, as it will require to be laid in small ridges to stand the winter, in order to keep the roots of the corn dry; in all succeeding crops, the large ridge may take place.

Having spoken of the common plough of the district as a very bad one, it may be expected I should recommend a better.

Some

Some of the best ploughs I have seen in Wales, are in use about Machynlleth ; and were brought there from that of Shropshire, which adjoins Montgomeryshire as before mentioned ; the share is sharp-pointed and winged, the earth board curved and plated with wrought iron ; it has two handles, which gives complete power to the holder—the whole plough is compact, light and firm—it turns as neat a furrow as can be imagined and is calculated for all sorts of ground (hilly as well as level) better than any other plough I have yet seen in Wales. In all free soils tolerably level, the light Suffolk plough with one handle dispatches a great deal of business very neatly, and saves the expence of a driver, as it is drawn by two horses a-breast. The common objection to English ploughs in this country is, that they do not work well among stones ; it is true that a man used to a particular sort of plough, may find it suit his hand better among stones, than a plough he is a stranger to ; but in fact, there ought not to be any large stones in the arable lands of this country ; and if they were picked every time the land is stirred, either by plough or harrow ; the objection to good ploughs and the difficulty of good ploughing would soon be removed.

*Field Stones.*—The surveyors of turnpike roads and the parochial surveyors of highways, would essentially serve the country, by repairing the roads more generally with field stones ; and the expence of gathering them, if done by women and children at so much a load, would frequently be less than digging a bad sort of material called rabb, in the neighbouring quarries. A load of field stones is better than two of rabb for service.

*Good Tenants encouraged.*—Nothing promotes improvement in a country more, than giving proper encouragement to improving tenants who keep their farms in neat order and their soil in good condition ; wherever a landlord perceives such progress upon any of his farms, I humbly presume he cannot promote his own interests better, than by holding out

all reasonable assistance to the industry of the farmer. When his lease expires, it is an act of equal justice and policy to give such a tenant a substantial proof of the preference he holds in his landlord's esteem ; if larger offers are made for the farm than it may be fairly deemed worth, they ought not to be listened to ; it is dangerous to let a tenant, whose good management you are not confident of, come upon a farm that has been put into good condition ; the man who has improved it, is more likely to set a proper value upon his former labours, and to keep the lands up to what he has brought them to ; indeed, it is notorious, that the estates of gentlemen who treat their tenantry with moderation and candour, are much more productive, than those of other proprietors whose conduct is harsh and severe.

*Collieries.*—The collieries in this county are rich and extensive. Several years ago, a spirited undertaking was completed by the late Thomas Kymer, Esq. who possessed an extensive coal estate, lying upwards of three miles from the sea port of Kidwelly ; which, owing to the distance from the port and the bad state of the roads, was of little or no value.

*Kidwelly Canal.*—Mr. Kymer obtained an Act of Parliament, for making a canal, with proper railways and wharfs, for conveying the produce of these collieries to the shipping ; and superintended the execution of the whole plan, which was completed in a style that reflects the highest credit on the enterprizing spirit and steady perseverance of the proprietor. It is much to be lamented, that this gentleman did not live long to enjoy the fruits of his commendable exertions, which I understand have turned out very beneficial to his surviving sisters, the Miss Kymers, of Kidwelly.

An extensive canal is now projecting, under the patronage of many gentlemen of high respectability in this county ; to commence at the Port of Loughor, and cross the country through or near the collieries, mines, and lime works of Landeby, to the Vale of Towy near Llandilo ; and up that

Vale :

Vale to the neighbourhood of Mr. Campbell's extensive and rich lead mines. This canal promises great advantages to the adventurers, and will be productive of infinite good to the neighbourhood at large; by conveying fuel and manure to those parts that now stand in need of them; and affording a ready outlet to the mines, coals, and other productions of the country.

*Paring and Burning.*—In the hilly parts of the county paring and burning is a very common practice, not with any view to the improvement of the soil; but the contrary. The common method of bringing a piece of rough land into tillage, is to pare the surface by a broad mattock or hoe. When the sods are sufficiently dried, they are thrown in heaps and burnt; the ashes are spread upon the surface of the land, with sometimes the addition of lime. The tillage process then commences in all its terrors—the soil obtains no quarter from the unrelenting ploughman, who pursues a succession of corn crops, until the land is totally exhausted, and then he takes his leave of it; permitting it to rest for a series of years, until it is thought so far recovered from the effects of his industry, as to engage him in some further exertions of a similar kind.

*Provisions.*—The price of provisions fluctuates considerably in this district—from the middle of July to Christmas, grass beef and mountain mutton become plentiful, and are generally bought for about three pence a pound. Veal is sometimes cheaper; I mean such of it as is fit to be called meat, for there is no inconsiderable quantity brought to market, the description of which would be disgusting. Pork may be classed in the price of beef and mutton.

After Christmas, the markets rise; and butchers meat becomes about four pence or four pence halfpenny per pound, and continues so until mountain mutton and grass beef come in and the price falls.

Fresh butter is in Summer eight-pence a pound—in Winter nine-pence or ten pence. Wheat is often very dear.

in this county—the quantity grown is not equal to the consumption.

Of Barley and oats they raise a superabundance, the prices now are

Wheat . . . 5s. od. to 5s. 6d. Winchester bushel.

Barley . . . 2s. 1od. to 3s. 9d.

Oats . . . 1s. 1od. to 2s. 9d.

The wheaten flour consumed in this district, was for the most part imported from Bristol—the obvious disadvantage of this traffic induced a gentleman of Carmarthen to erect a mill for the purpose of making sack flour; an undertaking which promises infinite advantage to a great extent of country, by encouraging the farmers to grow wheat in greater quantities, and holding out to them a steady market for it; the neighbouring inhabitants will be great gainers, in as much as they may now be supplied with flour at a cheaper rate than heretofore. The poor also will be benefitted by the establishment of this mill, which supplies them with household bread flour at a lower rate than they can procure it through any other channel; and as a mill has not been erected with any view to monopoly, and is conducted upon the fairest principles, it is justly entitled to the warm support of every well wisher to this country. The proprietor of this beneficial structure, is Mr. Herbert Lloyd.

*Roads.*—Carmarthenshire is more interested by turnpike roads, than any part of South Wales I have traversed. In travelling through this country, one feels much regret that many of the roads made some years ago, are ill contrived; by being laid out, in numerous instances, very injudiciously; and not by any means in such convenient lines as the situation of the country was capable of; the early made roads have been found to be too narrow, insomuch that they could not be kept in repair, by reason of the carriages being constrained by the limited width of the road, to travel in one and the same track; which has occasioned the roads thus circumstanced to be

be worn out so rapidly as to baffle all endeavours to keep them in proper repair.

The great inconvenience of this mismanagement has long been felt, and is now remedying; by widening the road between Carmarthen and Saint Clears, and some others in the county.

The salutary effects of this improvement are so obvious, that it is hoped the Trustees of all the old roads will adopt it.

The turnpike roads of modern date are better contrived, and in general of a proper width and well formed, which is chiefly to be ascribed, to the knowledge the gentlemen of the county have acquired, by experience in road making; and to the assistance of persons possessed of practical skill in such works.

The good effects of turnpike roads, it is hoped will induce gentlemen in every part of the district, to exert themselves towards amending and widening the bye roads, which will be the means of bringing improved carts and other carriages into general use.

*Farm Houses and Offices.*—The state of farm houses and farm offices in this district, is for the most part very defective. Many of the farms that have been taken into the landlords hands for the purpose of improvement, are well established with buildings and other conveniences; but by far the greater number are in very sad condition in this respect, and it would be difficult for an English farmer to conceive the shifts and contrivances made use of, as substitutes for proper accommodations.

*Farm Building.*—The present method of binding tenants by their leases, to keep the buildings in repair at their own cost, and to find all materials for the purpose, does not appear quite so advantageous to landlords, as may be thought on a superficial view of the measure. At least, this kind of agreement between landlord and tenant, may probably be one of the principal causes of the inferiority of most of our farm structures; and I am of opinion it will appear upon mature

consideration

consideration to be ultimately injurious to the interests of the land owners of this district.

The covenant, by which the whole repairs are thrown upon the tenants, occasions our farm buildings to be very generally neglected; no country exhibits more wretched conveniences for farm uses, than are generally to be seen in this district. Very few convenient farm yards are to be met with, and the dung heap is commonly left to chance, more than to any methodical course of management. It is no uncommon thing, to see the straw from the barn door, thrown promiscuously into a lane or highway passing by the farm buildings, where it is left to chance, and its soak water frequently runs away, without any attention to the improvement it would produce upon grass land. The out door stock of cattle, &c. are permitted to ramble at large during Winter, over the whole farm; by which all the advantages of making dung by a well regulated straw yard are lost. When the season for manuring his land arrives, the farmer scrapes every handful of scattered dung he can find, but feels himself much straightened in that valuable article, from his inattention to the making of it during the Winter. Many sensible gentlemen of landed property are aware of the inconveniences arising from this mode of laying all repairs upon the tenant—not one tenant in ten will keep his buildings in proper repair, or erect such new ones as his business requires; if landlords proceed to enforce the performance of such covenants by course of law, the tenants ruin is the consequence; and it happens frequently, that when the lease falls in, the landlord must expend two or three years rent in repairing the premises, or let the estate at an under value, in consequence of a new Tenant taking the repairs upon himself. Some landlords are of opinion, that if the leases were so framed as to engage the tenant to do all workmanship and carriage for repairs, and new erections; and the landlord to provide all unwrought materials, the husbandry of the district would be greatly improved and the landlords interest not

impaired thereby. If, where old leases exist, the tenant was to allow the landlord five per cent. for the monies expended in providing materials for new buildings, I believe much good would result to both, by such measures; the face of the country would soon wear a better countenance; the possession of convenient and comfortable structures, would bring the tenantry to a neatness in the management of their farms, and raise their minds above the make-shift, beggarly habits, which too many of them now practise. It is meant that the landlord should always be consulted as to the extent, situation, and structure of the buildings.

*Leases.*—The term of the leases commonly granted upon lands in this district, is for three lives, and the life of the survivor.

The lands are always lett at rack-rent, there being no instance that I know of, of leases granted upon fines—except church lands.

The tenant covenants to keep the houses, fences, gates, &c. &c. in repair during the term; and to deliver them so repaired at the end thereof. Also to bear and pay all rates, taxes, assessments, and impositions, as well parliamentary as parochial.

Not to plough, or otherwise break up any meadow land, belonging to the farm, without the landlord's consent in writing; or to pay an additional rent, in case he infringes this covenant.

Not to sell or dispose of any dung, hay, straw, corn in the straw, or compost produced upon the lands; but to expend the same upon the premises, in a proper and husbandlike manner.

Not to cut any trees or underwoods, which the landlord reserves; with mines, minerals, &c.

In some leases, the tenant covenants to manure every acre of land he breaks up with a certain quantity of lime, and a proportional dressing of dung. Not to take more than three

G. or

or four successive corn crops at one course of tillage, one whereof to be a green crop ; and then to lay the lands down with a mixture of clover and other grasses \*.

*Harvest Work nearly done.*—The harvest work of this district is performed with a neatness and security worth noticing—the barley and oats, as well as the wheat, is all bound into sheaves. If the barley, or oat crop stands tolerably well up, it is mown with a scythe and cradle : but if it happens to be too much lodged for mowing, then it is reaped. In either case the corn is laid neatly upon the stubble, and due care taken to lay the ears all one way. When it has lain a sufficient time to wither, it is bound into small sheaves, and immediately stacked up in stacks of about a cart load each, taking care to set the butts of the sheaves out side and next the ground ; the top is hackled, or coped with sheaves, inverted, so that no wet can penetrate. In this state the corn remains in the field, till all the hurry of harvest is over, and the farmer carries it home at his leisure. In a precarious harvest, this method may be found beneficial in any country, a little practice gives the people a very quick method of doing it ; and when the weather is changeable, much corn might be secured in this manner, at short intervals, when it might be too late in the day to begin carrying barley and oats from cocks.

*Commerce and Manufactures.*—The commerce of this county is very trifling ; at least its influence on the agriculture of the district cannot be great, as there is no handicraft trade or manufactory established, for the employment of the people in such numbers, as to make a visible impression upon the markets—the great lead mines, which lye some miles north of Llandovery, belonging to Mr. Campbell, of Stackpole Court ; a furnace for making iron and the forges, and

\* I do not recollect to have observed a regular performance of this covenant in any one instance.

other works dependant upon it, belonging to Mr. Morgan, of Carmarthen ; with a few iron forges of less note, give employment to a considerable number of people.

The manufacture of woollen stockings in the neighbourhood of Llandovery was considerable, but is much fallen off latterly ; a circumstance to be regretted, as the woollen manufactory seems better adapted than any other, to the inclinations of the people of this district—every woman here knows how to card and spin wool ; and if the manufacture of stockings, flannels, and narrow cloths was properly encouraged, it is presumed nothing could contribute more effectually to the comfort of the labouring poor of this county.

*Peoples Turn for Improvement.*—In the neighbourhoods of Carmarthen and Llandilo, the people seem to be shaking off their old prejudices in a considerable degree ; and the general inclination, in almost every part of the county, for the introduction of turnpike roads, presages the approach of amendment in other branches of rural economy.

*Agriculture Society.*—The influence of a very respectable society, established in this county for the encouragement of agriculture, &c. is thought to produce very beneficial effects ; but the slow progress which the operations of such an institution, in a country like this, must necessarily have, seems to dishearten many of its members and well-wishers. They apprehend the effects of the Societies premiums are not sufficiently general and conspicuous ; and do not take into the account, how exceedingly backward the science of agriculture was when this institution began. In a work so extensive, a very rapid progress towards perfection is not to be expected ; nothing but steady perseverance can afford room to hope for success in a plan of this sort ; and if land owners of every description, would make a point of joining hand and heart in promoting the views and assisting the operations of this popular institution, the most desirable effects might reasonably be expected to result from their united exertions. If gentlemen

gentlemen would be punctual in attending the meetings, and vigilant in examining the merits of the claimants for premiums ; their tenants and neighbours, would look up with proper respect to the Society; and would be impressed with the importance of the institution, in a manner that might be expected to produce that spirit of emulation—which it is ever the object of such establishments to excite.

*Obstacles to Improvement.*—Among the obstacles to improvement in this county, may be stated the local prejudices of the common farmers, and the present mode of paying tithes in kind. Should the Board of Agriculture be enabled, through its united wisdom and influence, to procure the adoption of some eligible plan for commutating the payment of tithes ; I do not know of any one measure, that would be productive of so much good to the country at large, to the industrious farmer in particular, and ultimately, to that venerable body, whose support principally arises from that portion of the products of the earth.

F. I. N. I. S.







